UNITED STATES DISTRICT COURT
WESTERN DISTRICT OF TEXAS
WACO DIVISION

PROFECTUS TECHNOLOGY LLC,	§	
	§	
Plaintiff	§	
	§	Civil Action No.: 6:20-CV-00101-ADA
v.	§	
	§	JURY TRIAL DEMANDED
GOOGLE LLC,	§	
	§	
Defendant	§	

GOOGLE LLC'S CORRECTED OPENING CLAIM CONSTRUCTION BRIEF

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INTRODUCTION

The patent asserted in this case claims a picture frame for displaying digital images. For three of the four disputed claim terms, Defendant Google LLC ("Google") has proposed constructions that hew to the technology as a person with skill in the art would have understood these terms based on the technology available in 1999-2000. The other term, "control circuitry," falls squarely within the *Williamson* line of cases finding that functional claim terms lacking sufficient disclosure of corresponding structure are indefinite.

I. BACKGROUND OF PLAINTIFF PROFECTUS TECHNOLOGY'S PATENT

The digital picture frame disclosed in the '308 Patent can be hung on a wall or placed on a desktop. Declaration of Dan Callaway at Ex. 1 (U.S. Patent No. 6,975,308) at 3:50-53. It includes a flat panel display "similar to those used for laptop computers." *Id*. at 4:17-19. The picture frame "is a stand alone unit including a processor coupled to the display for managing data to be displayed on a screen of the display, the data being stored in a memory…" *Id*. at 2:39-42. The processor may be a "conventional microprocessor." *Id*. at 7:9-11.

On the backside of the picture frame are interfaces, coupled to the memory, for downloading still images to the memory, *e.g.* from "VCRs, televisions, computers, a phone line (e.g. the Internet), a camera, etc." *Id*. at Fig. 2, 3:11-12, 5:44-50. A side panel includes a floppy or a CD/DVD disk drive for reading/writing data to and from the memory. *Id*. at Fig. 2, 6:7-10.

Separate from the "interface coupled to the memory," the picture frame has a user interface that can include picture quality controls, a "select" button, and a ball or joystick for moving a cursor on the screen. *Id*. at 4:43-51; compare with 5:48-50. This allows a speaker or teacher to "bring a floppy disk with the slides or images to be shown" in a lecture, and then change the images "by hitting a button on the interface panel". *Id*. at 5:65-6:6.

The picture frame, in conjunction with the microprocessor, can also "activate a particular function when at least one of motion sensing, achieving a particular time or date or achieving a particular lighting condition is experienced." *Id*. at 6:44-50. This could include "automatically activating the display screen" or "changing an image of the display" in accordance with an event. *Id*. at 8:4-6, 10:18-20.

II. PRIOR LITIGATION

Beginning in 2011, Profectus asserted the '308 Patent in prior litigation against 18 manufacturers and sellers of tablet computer devices, including Apple based on its iPad. *Profectus Technology LLC v. Huawei Technologies Co. Ltd., et al.*, No. 6:11-cv-474 (E.D. Tex.) (lead case); *see also* case Nos. 6:12-cv-178, 6:11-cv-674, 6:11-cv-675, 6:11-cv-676, 6:11-cv-677. The district court in the consolidated cases issued a *Markman* Order construing a number of terms also at issue in this case. *Profectus Tech. LLC v. Huawei Techs. Co.*, No. 6:11-CV-474, 2014 WL 1575719, at *11 (E.D. Tex. Apr. 17, 2014), *aff'd*, 823 F.3d 1375 (Fed. Cir. 2016). The constructions in that case were as follows:

'308 Patent Claim Term	Prior Claim Construction (2014)
Portable Memory Device	External storage media
Stand Alone	Independently satisfying each of the claimed features
Mountable	Having a feature for mounting
Picture Frame	a unit used to replace a conventional picture frame
Activating the Display Screen	Turning on the display screen
Changing an Image Displayed/Changing an Image of the Display Screen	altering or replacing an image displayed
Adapted to Digitally Display at Least One Still Image/Adapted to Digitally Display Still Images Thereon	No construction necessary

Automatically	No construction necessary
Display Screen	No construction necessary
Still Image	No construction necessary

Based on its construction of the term "mountable," the district court issued an order granting summary judgment in favor of non-infringement because the accused tablet devices did not have "a feature for mounting." *Profectus Tech. LLC v. Huawei Techs. Co.*, No. 6:11-CV-474, 2014 WL 11728718, at *1 (E.D. Tex. Sept. 8, 2014), *aff'd*, 823 F.3d 1375 (Fed. Cir. 2016). Profectus appealed. Dkt. 449, No. 6:11-cv-00474 (Sept. 29, 2014). The Federal Circuit affirmed. *Profectus Tech. LLC v. Huawei Techs. Co.*, 823 F.3d 1375, 1383 (Fed. Cir. 2016).

III. ARGUMENT

A. Legal Standard for Claim Construction

The Court is intimately familiar with the general principles of claim construction under *Phillips v. AWH Corp.*, and thus, Google focuses its attention in this section on the legal rules for when claims should be governed by 35 U.S.C. § 112(6). An element in a claim "may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof." 35 U.S.C. § 112(6). "Generic terms such as 'mechanism,' 'element,' 'device,' and other nonce words that reflect nothing more than verbal constructs may be used in a claim in a manner that is tantamount to using the word 'means' because they typically do not connote sufficiently definite structure and therefore may invoke § 112, para. 6." *Williamson v. Citrix Online, LLC*, 792 F.3d 1339, 1350 (Fed. Cir. 2015) (quotation omitted). If the specification fails to disclose adequate corresponding structure for a means-plus-function term, the term is indefinite. *Id.* at 1351-52.

B. '308 Patent Terms

Google addresses the following claim terms for construction in the '308 Patent:

1. "Control circuitry"

Google's Proposed Construction	Profectus Proposed Construction
Indefinite. Means-plus-function term. Functions: (1) activating the display in accordance with an event and (2) changing an image displayed in accordance with the event. Corresponding Structure: None	Plain and ordinary meaning.

The claim limitations that include the term "control circuitry" are drafted in a purely functional way, and should therefore be construed under §112, ¶6. In view of the specification, the only structure that could perform the claimed functions is the "microprocessor," but the patent does not disclose an algorithm and therefore fails to disclose sufficient corresponding structure. The term "control circuitry" in claims 1, 3, 13, 22, 29, and 31 is therefore indefinite.

A patentee may express a claim term using functional language. *See* 35 U.S.C. § 112, ¶6; *Williamson*, 792 F.3d at 1347–49 & n.3 (en banc in relevant portion). Specifically, section 112 ¶6 provides that a structure may be claimed as a "means . . . for performing a specified function," which is "construed to cover the corresponding structure, material, or acts described in the specification." If the claim language does not include the word "means," a relatively weak rebuttable presumption arises that the functional term is *not* a means-plus-function term. *Williamson*, 792 F.3d at 1349. This presumption is rebutted if a challenger demonstrates that the language of the claim fails to "recite sufficiently definite structure" or discloses a "function without reciting sufficient structure for performing that function." *Id.*

The Court construes a "means-plus-function" claim term in two steps. "The court must first identify the claimed function. Then, the court must determine what structure, if any, disclosed in the specification corresponds to the claimed function." *Williamson*, at 1351 (quoting *Noah Sys., Inc. v. Intuit Inc.*, 675 F.3d 1302, 1311 (Fed. Cir. 2012). If the patent's

specification does not disclose adequate corresponding structure, the claim containing the means-plus-function term is indefinite. *Williamson*, 792 F.3d at 1351.

a. "Control Circuitry" Is a Functional Claim Term

The "control circuitry" claim term is a generic "black box" that does not recite sufficient structure for performing the claimed functions. *Egenera, Inc. v. Cisco Sys., Inc.*, 972 F.3d 1367, 1374 (Fed. Cir. 2020) ("As used, 'logic' is no more than a 'black box recitation of structure' that is simply a generic substitute for "means."). Therefore the weak presumption against means-plus-function claiming should be set aside. *Id*.

Claim 1 recites "control circuitry coupled to the display screen ***for automatically activating the display screen*** in accordance with an event…", while claim 29 recites "control circuitry coupled to the display screen ***for automatically changing an image of the display screen*** in accordance with an event…", and claim 22 combines both functions. *See* Declaration of Dr. Paul Gratz ("Gratz Decl.") at ¶ 31.

In all three claims, the terms are drafted in a functional way, consisting primarily of verb phrases. Indeed, the term "control circuitry" itself is another functional phrase, *i.e.*, circuitry ***for controlling something***. But "control circuitry" does not convey what structure would be sufficient to perform the claimed functions. In the context of a "display screen for displaying the at least one still image stored in a memory," only "circuitry" could perform the functions of "automatically activating the display screen" or "automatically changing an image of the display screen," because practically every functional part of such a digital picture frame device can be considered "circuitry." *See* Gratz Decl. at ¶ 33. The term "control circuitry" adds no structure to the claim, and is as equally functional as the term "control module" that *Williamson* previously determined to being purely functional. *Williamson*, 792 F.3d at 1349; *see* Gratz Decl.

at ¶ 33. Therefore, the "control circuitry" terms overcome the *Williamson* presumption because they recite "function without reciting sufficient structure for performing that function." *Id.*

Nor is there sufficient structure by virtue of the claims reciting a "screen." The screen does not and cannot perform the actual function of "activating" itself or "changing an image" displayed on itself. Gratz Decl. at ¶ 35. The question is not whether a claim term recites *any* structure but whether it recites *sufficient* structure—a claim term is subject to § 112(6) if it recites "function without reciting sufficient structure *for performing that function*." *Williamson,* 792 F.3d at 1348 (emphasis added). The screen displays whatever image is formed by its input signal, but the screen is not "control circuitry" for changing or activating that input signal. Gratz Decl. at ¶ 35.

The Federal Circuit's recent decision in *Egenera, Inc. v. Cisco Systems, Inc.*, 972 F.3d 1367, 1372-75 (Fed. Cir. 2020), is instructive. The Court construed the term "logic to modify said received messages to transmit said modified messages to the external communication network and to the external storage network" as a means-plus-function limitation. *Id*. at 1375. The Court found that "logic is no more than a black box recitation of structure that is simply a generic substitute for 'means.'" *Id*. (citing *Williamson*). So too here, the "control circuitry" is simply a black box term that is a generic substitute for "means" to perform the claimed function. The *Egenera* Court found that the patentee failed to "explain how its 'logic'—even assuming it connotes some possible structure in the general sense of software, firmware, or ***circuitry***—amounts to 'sufficient structure for performing [the modification] function.'" *Id.* at 1374 (emphasis added). So too here, "control circuitry" does not supply sufficient structure for the claimed "activating" and "changing an image" functions. Gratz Decl. at ¶ 33.

b. Although 'Control Circuitry' May be Implemented By a Microprocessor, The Disclosure of a General Purpose

Microprocessor Also Fails To Provide Sufficient Structure to Prevent the Term From Being Indefinite.

In light of the '308 patent specification, a person of skill in the art would understand that to perform the claimed functions of "automatically activating the display screen" or "automatically changing an image of the display screen," the "control circuitry" would need to include a processor executing a specific purpose-designed algorithm. Gratz Decl. at ¶ 36. As discussed below, the specification confirms that the claimed functions require a microprocessor. But even if the "microprocessor" is recited ***in*** the claim, it cannot provide sufficient structure for a functional claim term.[1] *Egenera*, 972 F.3d at 1374 ("Egenera does not explain how its "logic"—even assuming it connotes some possible structure in the general sense of software, firmware, or circuitry—amounts to "sufficient structure for performing [the modification] function."); *St. Isidore Research, LLC v. Comerica Inc.*, No. 2:15-CV-1390-JRG-RSP, 2016 WL 4988246, at *14 (E.D. Tex. Sept. 19, 2016) ("[E]ach processor is defined only by the function that it performs. As such, the Defendants have rebutted the presumption that § 112, ¶ 6 does not apply to the term 'processor' in these claims."); *Syneron Med. Ltd. v. Invasix, Inc.*, No. 8:16-cv-00143-DOC-KES, 2018 WL 4696971, at *14 (C.D. Cal. Sept. 5, 2018) ("the disputed "processor . . ." terms are defined only by the function they perform.").

[1] Claim 22 separately recites a "microprocessor" in addition to the "control circuitry." But that does not distinguish claim 22 from claims 1 and 29 in this indefiniteness analysis, because the term "microprocessor" is *itself* insufficient structure. Combining two terms that lack sufficient structure cannot create sufficient structure. *Digital Retail Apps, Inc. v. H-E-B, LP* (Slip Copy), No. 6-19-CV-00167-ADA,2020 WL 376664, , at *6 and n.3 (W.D. Tex. Jan. 23, 2020) (J. Albright) (explaining that "web API" software lacked sufficient structure, and therefore could not be the corresponding structure for a "first communications module," holding the claim indefinite.); *Egenera*, 972 F.3d at 1374 ("Mere inclusion of a limitation within a structure does not automatically render the limitation itself sufficiently structural.").

The patent specification confirms that the claimed functions require a microprocessor. For example, Figure 5 shows a block diagram in which "the blocks . . . may be implemented in software, hardware, or a combination of both." '308 Patent at 6:27-30.

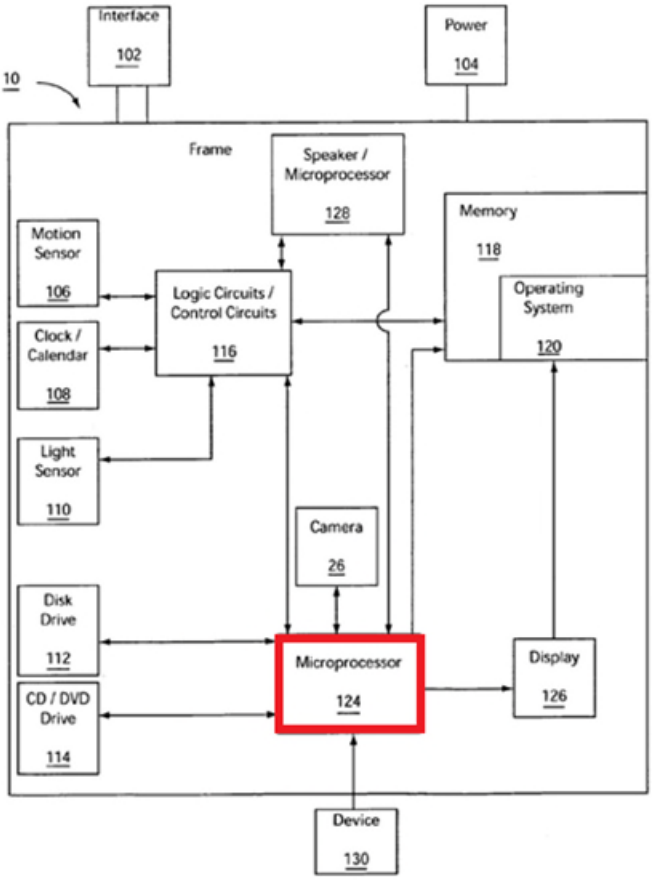

FIG. 5

Figure 5 includes "microprocessor 124" with an arrow pointing to the "display 126," signifying that the microprocessor can control the display. Gratz Decl. at ¶ 39. The microprocessor would be a necessary component for performing the "activating" or the "changing an image" functions, for several reasons. ***First***, the microprocessor is the ***only block in Figure 5*** with an arrow indicating it can control or influence "display 126," and it would need to run an algorithm to effectuate that control. Gratz Decl. at ¶ 39. ***Second***, the claimed function of "control circuitry . . . for automatically changing an image" (in claims 22 and 29), under either

party's construction, would require decoding a digital image (*e.g.*, a JPEG) and rendering it to the screen. Gratz Decl. at ¶ 36; '308 Patent at 6:10-13. That function, practically speaking and in the context of the '308 Patent, could ***only*** be performed by a microprocessor, because decoding a photographic image stored in memory requires thousands to millions of multiplications, cosine computations, and rounding in order to determine the correct colors for each pixel in the image. Gratz Decl. at ¶ 36. ***Third***, the claimed "control circuitry" functions of "activating the display screen" and "automatically changing an image" are performed "in accordance with an event, wherein the event includes one of a change in light intensity, and a sound detected in proximity of the display." '308 Patent at Claims 1, 22 and 29. But a microprocessor would be needed in order for the control circuitry to determine if and when the triggering event occurred. Gratz Decl. at ¶ 38. For example, the microprocessor (running an algorithm) would contain criteria for the particular "change in light intensity necessary" or the particular volume or proximity of a sound that would be necessary to activate the display, or to automatically change an image. *Id.*[2]

As in *Egenera*, the claimed "light intensity" and "sound detected in proximity" are terms of degree that serve as "inputs" to the control circuitry. *Egenera*, 972 F.3d at 1374. But, "the claims and specification provide no structural limitation to the inputs" of the claimed "control circuitry." Instead, the specification repeats verbatim the language of the claims, *i.e.* "the event may include…a change in light intensity and a sound detected in proximity of the display," while

[2] In its infringement contentions, Profectus also maps the term "control circuitry" to a microprocessor. The contentions state: "The control circuitry of the Google Nest Hub includes, but is not limited to, the AMLogic S905D2 System on a Chip, microphones, Google Assistant, and an ambient light sensor and accompanying software and/or firmware." Ex. 5 (infringement contentions) at 10. The AMLogic S905D2 system on a Chip includes a microprocessor, which, in the Google Nest Hub, executes custom software. Gratz Decl. at ¶ 40.

providing no detail about the specific structures that determine when an "event" has occurred. '308 Patent at 2:17-20 (disclosing a change in light intensity and a sound in proximity); 2:32-36 (same); 3:14-16 (same). Figure 5 shows a "light sensor" connected to "logic circuits/control circuits 116," which is only mentioned in one passage of the patent:

> In one embodiment, a ***logic circuit or chip 116*** is employed to activate a particular function when at least one of motion sensing, achieving a particular time or date or achieving a particular lighting condition is experienced. ***Logic circuit 116*** may act independently or in conjunction with microprocessor 124. For example, motion is detected and display 126 is activated showing the last picture in memory, or light intensity has decreased and display intensity is thereby reduced.

'308 Patent at 6:44-53 (emphasis added).[3] This passage says nothing about an algorithm for performing the claimed functions, or what structure executes the algorithm (the circuit 116 may act independently or in conjunction with microprocessor 124). Indeed, it adds almost nothing to the bare claim language, and does not even mention the claimed "sound detected in proximity of the display." As was the case in *Egenera*, Profectus does not explain how its control circuitry, "even assuming it connotes some possible structure in the general sense of software, firmware, or circuitry—amounts to sufficient structure for performing [the] function." *Egenera*, 972 F.3d at 1374.

c. The Specification Discloses No Corresponding Structure, Because There is No Algorithm For The Microprocessor

"Structure disclosed in the specification qualifies as 'corresponding structure' if the intrinsic evidence clearly links or associates that structure to the function recited in the claim."

[3] Nor is a "light sensor" sufficient structure to perform the claimed functions "activating the display screen" and "changing an image," because a light sensor is a passive device that simply outputs a signal commensurate with the intensity of light shining on it. Gratz Decl. at ¶ 41.

Williamson, 792 F.3d at 1352. If a POSITA could not "recognize the structure in the specification and associate it with the corresponding function in the claim, a means-plus-function clause is indefinite." *Id.*

If the "means" in a MPF claim is a "computer" or "microprocessor" programmed with instructions (*i.e.*, software) to perform the claim function, the specification must disclose the specific algorithm, either in code or in a similarly detailed disclosure. "We require that the specification disclose an algorithm for performing the claimed function." *Williamson*, 792 F.3d at 1352 (citing *WMS Gaming, Inc. v. Int'l Game Tech.*, 184 F.3d 1339, 1349 (Fed. Cir. 1999)). If the specification ***does*** disclose an algorithm, whether that algorithm provides sufficient structure is "judged in light of what one of ordinary skill in the art would understand the disclosure to impart." *Aristocrat Techs. Australia Pty Ltd. v. Int'l Game Tech.*, 521 F.3d 1328, 1337 (Fed. Cir. 2008) (cited with approval in *Williamson*, 792 F.3d at 1352). If no algorithm is disclosed by the specification—only a general purpose computer or generic microprocessor capable of performing a multitude of functions—the claim is indefinite. *Id.*

As discussed above, the claimed functions for "control circuitry" could only be performed by the microprocessor of Figure 5, and then only with a suitable algorithm to perform the claimed functions. Gratz Decl. at ¶ 36. The '308 Patent discloses no such algorithm, showing only generic "logic circuits" and results-oriented functional descriptions. Gratz Decl. at ¶ 39; *see* '308 Patent at 6:27-7:2; Fig. 5; *Aristocrat Techs.*, 521 F.3d at 1334 (finding insufficient disclosure of algorithm where the specification merely "describes the outcome of performing the function."). *Egenera* specifically held that "logic" is a black box recitation" necessarily lacking sufficient structure. Moreover, Column 6 of the '308 Patent describes only the "inputs, outputs, connections, and operation of the logic component," and such generic

descriptions were deemed insufficient in *Egenera*. *Id*. at 1374. The '308 Patent admits that the necessary disclosure of an algorithm is absent, stating "[o]perating system 120 includes all protocols and interface information for controlling the functions of components of frame 10." '308 Patent at 7:39-41. Therefore, the '308 Patent lacks any disclosure of an algorithm adequate to transform the generic "microprocessor" of Figure 5 into a definite "control circuitry" means that performs the claimed functions for "activating the display" and "changing an image displayed."

2. "Interface"

Google's Proposed Construction	Profectus Proposed Construction
A shared electrical boundary between parts of a computer system, through which information is conveyed. Or (construing the entire claim phrase "interface coupled to the memory"): a shared boundary between the memory and another part of the system, through which information is conveyed.	Plain and ordinary meaning.

a. "Interface" Requires Construction Because the Patent Uses the Term In Two Different Ways, Only One of Which Is Encompassed By the Claims

The term "interface" should be construed in accordance with the understanding of a POSITA at the time of the '308 Patent's priority date. It is not enough to rely on the plain meaning of "interface," because the term has multiple meanings. *Phillips v. AWH Corp.*, 415 F. 3d 1303, 1313 (Fed. Cir. 2005) ("Importantly, the person of ordinary skill in the art is deemed to read the claim term not only in the context of the particular claim in which the disputed term appears, but in the context of the entire patent, including the specification"); *U.S. Surgical Corp. v. Ethicon, Inc.*, 103 F.3d 1554, 1568 (Fed. Cir. 1997) ("Claim construction is a matter of resolution of disputed meanings and technical scope, not an obligatory exercise in redundancy."); *see also Phillips v. AWH Corp.*, 415 F.3d 1303, 1315 (Fed. Cir. 2005) ("in case of doubt or

ambiguity it is proper in all cases to refer back to the descriptive portions of the specification to aid in solving the doubt or in ascertaining the true intent and meaning of the language employed in the claims") (internal cites omitted). The jury should receive a clear definition that avoids confusion between similarly-named but otherwise distinct concepts in the patent. Indeed, the patent specification discloses at least two separate "interfaces," not all of which are consistent with the claimed interface which is "coupled to the memory for downloading still images to the memory." '308 Patent at claims 1, 22 & 29. Therefore, claim construction is necessary to resolve the correct scope of the term "interface."

b. The Patent Discloses a "User Interface" Which Is Not Relevant to This Claim Term

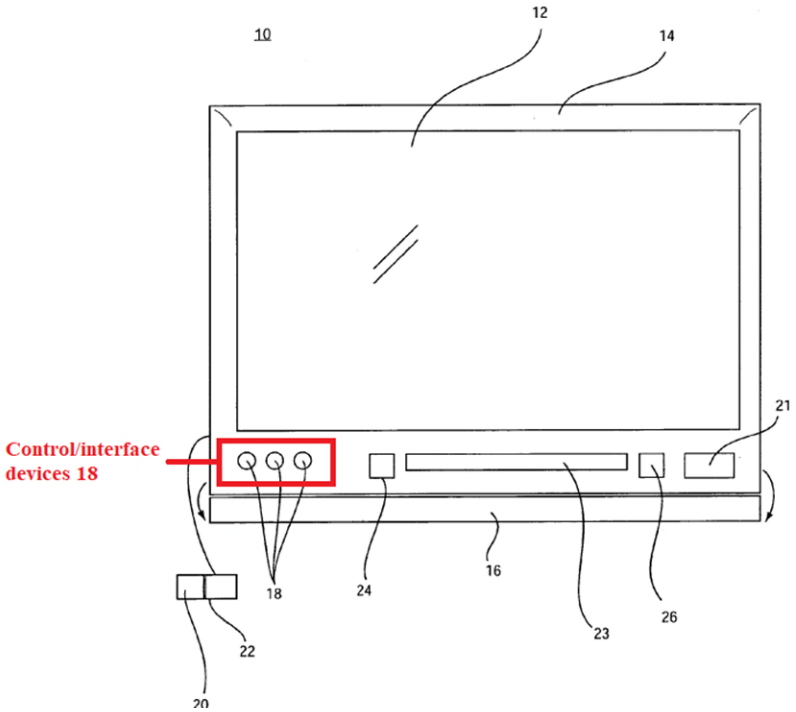

Figure 1, showing front-panel "control/interface devices" that are not relevant to the claimed "interface"

The first instance of an "interface" in the specification is shown in Figure 1, which shows the front view of a digital picture frame including "control/interface devices 18." '308 Patent at

Fig. 1; 3:33-34; 4:43-47. These control/interface devices can include picture controls such as contrast, tint, hue, etc., and "may also include a select button or program button for selecting pictures or programs of pictures to be run." *Id.* at 4:43-47. The control/interface devices shown in Figure 1 are intended for the user to interact with the device. *Id.* at 4:43-51 (e.g. "picture quality features," "button for selecting pictures or program of pictures to be run," "ball or joystick for moving a cursor on the screen of display 12 to select options, select alphanumeric characters for labeling files and/or photographs or other interfacing activities"). The control/interface devices shown in Figure 1 are not what is contemplated by the term "interface" as used in claims 1, 22 and 29, because they are not "coupled to the memory for downloading still images to the memory." *See* Gratz Decl. at ¶ 42.

c. The Patent Also Discloses Interfaces For Connecting To External Devices, Which Are Relevant to This Claim Term

The second instance of an "interface" in the specification is shown in Figure 2, which shows "interfaces 30," drawn as three circles and a rectangle located at the bottom-right edge of the device. *Id.*; *see also* '308 Patent at 5:48-50.

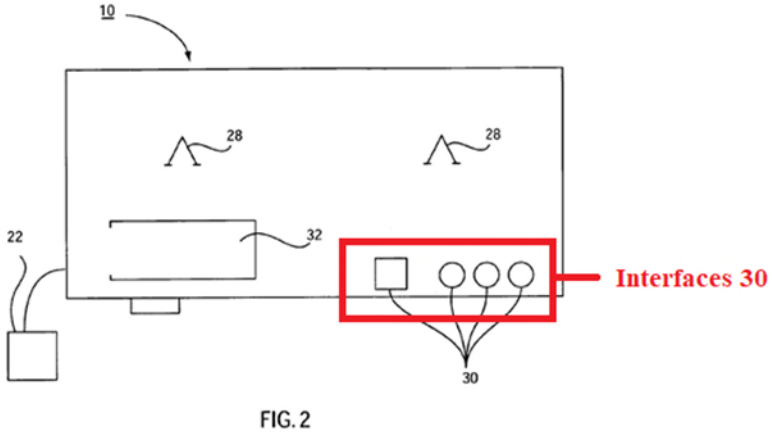

Figure 2, showing rear-panel "interfaces 30"

Interfaces 30 "are provided for interfacing frame 10 to other devices such as VCRs, televisions, computers, a phone line (e.g., the Internet), a camera, etc." '308 Patent at 5:48-50; *see also* 8:15-

17 (dependent claim 4); 9:40-42 (dependent claim 23). Notably, each of these examples of "interfaces 30" is a physical medium; VCRs, televisions, computers, and cameras would all be connected to the frame using a wire for either an analog video signal, a digital video signal, or a digital peripheral medium such as USB or RS-232. *See* Gratz Decl. at ¶ 43. The frame "may include protocols, stored in memory (operating system), for interfacing with these devices in a similar manner as is provided by personal digital assistants (PDAs) and the like." '308 Patent at 5:50-53; *see also* 7:38-51. A POSITA would understand that a PDA at the time of the purported invention of the '308 Patent would have a wired serial interface (such as USB or RS-232) with a protocol for transferring data to or from the PDA. *See* Gratz Decl. at ¶ 44.

d. The Specification Does Not Define "Interface," So Google Offers Extrinsic Evidence

Notably, every discussion of the claimed "interface" in the patent specification concerns what the interface ***does***, not what the interface ***is***.[4] Jurors in this case will be looking at the accused device and the prior art for an "interface" in the context of infringement and invalidity, and they will need to understand what an interface ***is***. Therefore, a technical dictionary may assist a court in "better understand[ing] the underlying technology and the way in which one of skill in the art might use the claim terms." *Phillips*, 415 F.3d at 1318 (*quoting Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1584 n.6 (Fed. Cir. 1996)); s*ee also Ancora Techs., Inc. v.*

[4] *See, e.g.* '308 Patent at 2:11-12 and 3:11-12 (interface is coupled to the memory for downloading still images); 2:21-24, 3:16-20 and 5:48-50 (interface may be adapted to receive image data from a digital camera, VCR, television, phone line (e.g. the Internet), computer, or portable memory device); 3:55-58 ("The frame may include a plurality of interfaces for coupling to devices such as a digital camera or a computer for downloading and storing photographic images for display."); 7:38-41 ("Operating system 120 includes all protocols and interface information for controlling the functions of components of frame 10."); and 7:41-43 ("Operating system may further include protocols for interfacing with external devices 130 in a direct manner.").

Apple Inc., No. 11-CV-06357, 2012 WL 6738761, *5-7 (N.D. Cal. Dec. 31, 2012), *related appeal*, 744 F.3d 732 (Fed. Cir. 2014) (relying on extrinsic evidence to construe the term "BIOS," which was not defined in the claims or specification).

A POSITA at the time of the purported invention of the '308 Patent would have understood an "interface" to be "a shared electrical boundary between parts of a computer system, through which information is conveyed" (the "IEEE Definition"). This is the first definition listed in the 1996 *IEEE Standard Dictionary of Electrical and Electronics Terms*, Sixth Edition (The "IEEE Dictionary"). *See* Ex. 3.[5] Indeed, almost every definition of the term "interface" in the IEEE Dictionary uses the words "shared boundary," "common boundary," "junction," or "physical connection." *Id.*; Ex. 4. This definition would help the jury to understand the correct context of the term "interface" in the eyes of a POSITA.

The IEEE Definition is consistent with the claims and specification of the '308 Patent. The claims require that the "interface" is "coupled to the memory for downloading still images to the memory." (claims 1, 22 & 29). The written description describes the "interface" as being connected to something physical, such as a digital camera, VCR, television, portable memory device, computer, or phone line. '308 Patent at 2:21-24, 3:16-20 and 5:48-50. And, the operating system of the claimed device "may further include protocols for interfacing with external devices 130 ***in a direct manner***", i.e. physically interfacing. *Id*. at 7:41-43; *See* Gratz Decl. at ¶ 47. All of this is consistent with the concept of a "shared electrical boundary" as described in the IEEE Definition.

[5] The same definition quoted above from the Sixth Edition of the IEEE Dictionary, from 1996, is also the first listed definition in the Seventh Edition from 2000. *See* Ex. 4. This suggests that the definition of "interface" did not change in the timeframe of the purported invention.

Other courts have similarly construed the term "interface" (or variants thereof) to include a "shared boundary" across which information may be passed or conveyed. *See, e.g., Foundry Networks v. Lucent Techs., Inc.*, No. CIV.A. 2-04-CV-40TJW, 2005 WL 6217420, at *5 (E.D. Tex. May 24, 2005) (Citing IEEE Dictionary and determining that "[t]he court construes "telephone network interface" to mean "***a shared boundary*** between a telephone network and another system or device ***across which information is passed***."); *Video Prod., Inc. v. Rose Elecs.*, No. 5:03 CV 2283, 2005 WL 6258388, at *5 (N.D. Ohio Feb. 22, 2005) (Citing IEEE dictionary, and determining that "[i]n light of this reasoning, the Court construes "interface" to mean "a shared boundary that is a component part of the patented switch.")

Accordingly, Google proposes that "interface" be construed as "a shared electrical boundary between parts of a computer system, through which information is conveyed." Alternately, the entire claimed phrase "interface coupled to the memory" may be construed as "a shared boundary between the memory and another part of the system, through which information is conveyed."

3. "Activating the display screen"

Google's Proposed Construction	Profectus Proposed Construction
Turning on the display screen.	Switching the display screen from a screen saver or power down mode.

Google proposes adopting the prior construction of "activating the display screen" to mean "turning on the display screen," from the 2014 *Markman* order in the Eastern District of Texas *Profectus v. Huawei* case. *See* above at Section II.

During prosecution of the '308 Patent, the Applicant explicitly stated that "activating" the display screen meant "powering on." To overcome a rejection, the Applicant argued that the prior art did **not** disclose a device with functionality for "*automatically activating the display*

screen in accordance with an event" such as a change in light intensity or sound. Ex. 2 at 34 (Applicant Remarks of 3/14/2005) (italics in original). The Applicant explained that "[w]ith the present invention, the addition of sound or light intensity detection permits the triggering of a useful event such as a **power on sequence** or change of displayed picture." *Id*. (emphasis added). The Applicant further emphasized that "[t]he motion detection in the present invention is used to trigger an event such as changing the displayed picture or **powering the device on**." *Id.* at 35 (emphasis added).

The specification also supports the prior construction of "activating the display screen." '308 Patent 5:25-30 ("For example, when display 12 is in a **power down mode,** a person enters a room. Motion sensor 24 senses the motion and **activates** the display 12 to return an image to display 12.") (emphasis added). The specification also states that the motion sensor "includes a switch which is **activated** for **turning on** a particular function . . . ." *Id.* at 6:35-36 (emphasis added). Thus, the Applicant used "activate" in the sense of turning on the display screen.

4. "Changing an image displayed/changing an image of the display screen"

Google's Proposed Construction	Profectus Proposed Construction
Switching the still image on the display screen to a different still image.	Altering or replacing an image displayed.

The term "changing an image displayed/changing an image of the display screen" means "switching the still image on the display screen to a different still image." This is consistent with the claim language, which unequivocally reveals that the screen is meant to switch between still images. Claims 22 and 29 both recite in the preamble that the picture frame is "***for displaying still digital images***." '308 Patent at 9:17-18 (claim 22); and 10:6-7 (claim 29). And, both claims return to the "still image" language in the body of the claim, using the same language. *Id.* at 9:23-24 and 10:12-13 ("a display screen ***for displaying the at least one still image*** stored in a

memory"). Based on the definitional language early in the claim, the later claim language "automatically changing an image" refers back to the still images, and means switching between those images.

Google's construction is also consistent with every embodiment given in the specification. For example, the patent discloses that an image on the screen may be "changed" to show different images based on the time of day, with an image of a sunrise in the morning, a sunset in the evening, and stars at night. '308 Patent at 5:5-10. And the patent discloses that the picture frame could be provided in a meeting room, so that a speaker or teacher could display images for a lecture. '308 Patent at 5:65-6:2. "The images may be ***changed***" by a button, voice activation, or remote signal. *Id*. at 6:2-6. In both of these disclosures, the screen is switching between displayed images, as opposed to modifying or altering a displayed image.

Indeed, during prosecution the applicant distinguished prior art by emphasizing that the claims of the '308 Patent required changing the whole image, as opposed to modifying it. *Iridescent Networks, Inc. v. AT&T Mobility, LLC*, 933 F.3d 1345, 1353 (Fed. Cir. 2019) (intrinsic evidence can provide objective boundaries to the scope of the term, and the Court "may look to the prosecution history for guidance without having to first find a clear and unmistakable disavowal."). For example, the examiner cited a passage in a prior art reference ("Jacklin") that read "Display screen 7 allows a user to ***view any selected digital still photograph***, in addition to displaying the available operator selection options (or "setup menu"), when same has been selected by a user." *See* Ex. 2 at 46 (Non-Final Rejection of 12/20/2004, at 3); *see also* Ex. 6 (U.S. Patent No. 6,396,472) at 6:8-12. The examiner used the applicant's claim language to characterize this passage, noting that "Jacklin further teaches the control circuitry ***changes an image displayed*** in accordance with an event." *See* Ex. 2 at 46 (Non-Final Rejection of

12/20/2004, at 3). The applicant distinguished Jacklin while adopting the examiner's use of the term "changes an image," stating: "With the present invention, the addition of sound or light intensity detection permits the triggering of a ***useful event*** such as a power on sequence ***or change of displayed picture***." Ex. 2 at 34 (Applicant Remarks of 3/14/2005).

Additionally, the Applicant distinguished a claim interpretation whereby "changing an image" can be equivalent to "altering" that image. In particular, the Examiner cited a prior art picture frame including a "contrast/brightness control wheel" to alter the brightness and contrast of the display screen. Ex. 2 at 85-86; *see also* . To overcome that rejection, the Applicant told the PTO that brightness control "***is not relevant to the claim language submitted***" and "***does not even remotely set forth the features of the amended claims.***" *Id.* at 84-85 (Applicant Remarks of 7/7/2003 at 8-9) (emphasis added). This cuts against Profectus' proposed construction, which backslides on applicant's statements during prosecution by encompassing "altering" an image in the construction. *See also* Ex. 2 at 35 (Applicant Remarks of 3/14/2005 at 12) ("The motion detection in the present invention is used to trigger an event such as ***changing the displayed picture*** or powering the device on . . . . The present invention provides additional functionality over Hsien and all other known prior art by ***allowing the user to view a wide variety of images***, with no active intervention on the part of the user."); Ex. 2 at 86 (Applicant Remarks of 7/7/2003 at 10) ("The picture frame is reactive to stimuli in its environment and is activated (claim 1) or changes the image (claim 31) when subjected to an event. For example, on a given date or given time ***an image may be switched***.")

IV. CONCLUSION

Based on the foregoing, Google respectfully requests that the Court adopt Google's proposed constructions.

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Respectfully submitted,

/s/ Daniel C. Callaway

Daniel C. Callaway (*PRO HAC VICE*)
dcallaway@fbm.com
Stephanie Skaff (*PRO HAC VICE*)
sskaff@fbm.com
Eugene Y. Mar (Admitted)
emar@fbm.com
Winston Liaw (Admitted)
wliaw@fbm.com
Laura Pedersen (*PRO HAC VICE*)
lpedersen@fbm.com
Farella Braun & Martel LLP
235 Montgomery Street, 17th Floor
San Francisco, California 94104
Telephone: (415) 954-4400
Facimile: (415) 954-4480

Stephen E. McConnico
State Bar No.: 13450300
smcconnico@scottdoug.com
Paige Arnette Amstutz
State Bar No.: 00796136
pamstutz@scottdoug.com
Scott, Douglass & McConnico, LLP
303 Colorado Street, Suite 2400
Austin, TX 78701
Telephone: (512) 495-6300
Facimile: (512) 495-6399

Counsel for Defendant Google LLC

CERTIFICATE OF SERVICE

Pursuant to the Federal Rules of Civil Procedure and Local Rule CV-5, I hereby certify that, on November 25, 2020, all counsel of record who have appeared in this case are being served with a copy of the foregoing via the Court's CM/ECF system.

/s/ Daniel Callaway
Daniel Callaway